Please provide the following information, and submit to the NOAA DM Plan Repository.

Reference to Master DM Plan (if applicable)

As stated in Section IV, Requirement 1.3, DM Plans may be hierarchical. If this DM Plan inherits provisions from a higher-level DM Plan already submitted to the Repository, then this more-specific Plan only needs to provide information that differs from what was provided in the Master DM Plan.

URL of higher-level DM Plan (if any) as submitted to DM Plan Repository:

1. General Description of Data to be Managed

1.1. Name of the Data, data collection Project, or data-producing Program:

National Coral Reef Monitoring Program: Water Temperature Data from Subsurface Temperature Recorders (STRs) deployed at coral reef sites in the Hawaiian Archipelago from 2010 to 2016

1.2. Summary description of the data:

Water temperature data are collected using subsurface temperature recorders (STRs) that aid in the monitoring of seawater temperature variability at permanent coral reef sites in the Hawaiian and Mariana Archipelagos, American Samoa, and the Pacific Remote Island Areas as part of the NOAA National Coral Reef Monitoring Program (NCRMP). High-accuracy temperature loggers made by SeaBird Electronics (SBE) are deployed on the reef for a period of 3 years at depths ranging from 0 to 30 meters along depth transects at Ocean and Climate Change monitoring survey sites. When a STR is recovered, typically another STR is deployed in the same location. Raw data with an original sample interval ranging from 1 to 20 minutes are averaged hourly, and gaps of longer than one hour in the time-series, due to instrument failure or battery death, are padded with null values. Temperate data are archived by region and year recovered. For analysis purposes, temperature sensor deployments are grouped by site, and temperature data from successive deployments at each site are concatenated.

The temperature data provided in this data set were collected from STRs deployed at existing, long-term monitoring sites during NOAA Pacific Islands Fisheries Science Center (PIFSC), Coral Reef Ecosystem Program (CREP) led NCRMP missions. The data can be accessed online via the NOAA National Centers for Environmental Information (NCEI) Ocean Archive.

1.3. Is this a one-time data collection, or an ongoing series of measurements?

One-time data collection

1.4. Actual or planned temporal coverage of the data:

2010-09-07 to 2013-09-14, 2013-07-13 to 2016-09-28

1.5. Actual or planned geographic coverage of the data:

W: -160.237608, E: -154.81762, N: 22.171488, S: 18.922527

Main Hawaiian Islands, including Hawaii, Kauai, Maui, Oahu, Molokai, Niihau, Lanai, as well as Lehua, and Molokini.

W: -178.383708, E: -166.116814, N: 28.459215, S: 23.634997
Northwestern Hawaiian Islands, including French Frigate Shoals, Laysan, Lisianski, Pearl and Hermes, and Kure.

1.6. Type(s) of data:
(e.g., digital numeric data, imagery, photographs, video, audio, database, tabular data, etc.)
Table (digital)

1.7. Data collection method(s):
(e.g., satellite, airplane, unmanned aerial system, radar, weather station, moored buoy, research vessel, autonomous underwater vehicle, animal tagging, manual surveys, enforcement activities, numerical model, etc.)
Instrument: Seabird Electronics subsurface temperature recorder (STR) or temperature logger
Platform: STRs are attached to a mounting bracket with weights and then strapped to solid substrate at the benthos using cable ties.
Physical Collection / Fishing Gear: Not applicable

1.8. If data are from a NOAA Observing System of Record, indicate name of system:

1.8.1. If data are from another observing system, please specify:

2. Point of Contact for this Data Management Plan (author or maintainer)

2.1. Name:
Annette M DesRochers

2.2. Title:
Metadata Contact

2.3. Affiliation or facility:
Pacific Islands Fisheries Science Center

2.4. E-mail address:
annette.desrochers@noaa.gov

2.5. Phone number:
(808)725-5461

3. Responsible Party for Data Management

Program Managers, or their designee, shall be responsible for assuring the proper management of the data produced by their Program. Please indicate the responsible party below.

3.1. Name:

Thomas Oliver

3.2. Title:
Data Steward

4. Resources
Programs must identify resources within their own budget for managing the data they produce.

4.1. Have resources for management of these data been identified?
Yes

4.2. Approximate percentage of the budget for these data devoted to data management (specify percentage or "unknown"):
Unknown

5. Data Lineage and Quality
NOAA has issued Information Quality Guidelines for ensuring and maximizing the quality, objectivity, utility, and integrity of information which it disseminates.

5.1. Processing workflow of the data from collection or acquisition to making it publicly accessible
(describe or provide URL of description):

Lineage Statement:
Water temperature data are collected using high-accuracy subsurface temperature recorders (STRs) made by SeaBird Electronics (SBE). STRs are deployed on the reef for a period of 3 years at depths ranging from 0-30m along depth transects at Ocean and Climate Change monitoring survey sites.

Process Steps:
- STRs are attached to a mounting bracket weighted with 6 lb, and then strapped to solid substrate (attached dead coral or rock) at the benthos using cable ties by SCUBA divers. A GPS point is taken by surface support personnel at the surface float which is positioned directly above the instrument during the dive. The depth of the instrument is taken by photographing a diver depth gauge next to the serial number of the instrument after installation.
- On recovery, a second waypoint and depth are taken in the same manner as the deployment before cutting the instrument free. When a STR is recovered, typically another STR is deployed in the same location.
- Data are downloaded using the SeaBird SeaTerm program, and then post-processed using MATLAB. Data from when the instrument was turned on but not yet deployed are removed, and data from the period between removal and data download are also removed.

5.1.1. If data at different stages of the workflow, or products derived from these data, are subject to a separate data management plan, provide reference to other plan:

5.2. Quality control procedures employed (describe or provide URL of description):
The data is quality controlled by CREP personnel after the data is downloaded from the instrument.

6. Data Documentation

The EDMC Data Documentation Procedural Directive requires that NOAA data be well documented, specifies the use of ISO 19115 and related standards for documentation of new data, and provides links to resources and tools for metadata creation and validation.

6.1. Does metadata comply with EDMC Data Documentation directive?
Yes

6.1.1. If metadata are non-existent or non-compliant, please explain:

6.2. Name of organization or facility providing metadata hosting:
NMFS Office of Science and Technology

6.2.1. If service is needed for metadata hosting, please indicate:

6.3. URL of metadata folder or data catalog, if known:
https://inport.nmfs.noaa.gov/inport/item/37070

6.4. Process for producing and maintaining metadata
(describe or provide URL of description):
Metadata produced and maintained in accordance with the NMFS Data Documentation Procedural Directive: http://www.nmfs.noaa.gov/op/pds/documents/04/111/04-111-01.pdf

7. Data Access

NAO 212-15 states that access to environmental data may only be restricted when distribution is explicitly limited by law, regulation, policy (such as those applicable to personally identifiable information or protected critical infrastructure information or proprietary trade information) or by security requirements. The EDMC Data Access Procedural Directive contains specific guidance, recommends the use of open-standard, interoperable, non-proprietary web services, provides information about resources and tools to enable data access, and includes a Waiver to be submitted to justify any approach other than full, unrestricted public access.

7.1. Do these data comply with the Data Access directive?
Yes

7.1.1. If the data are not to be made available to the public at all, or with limitations, has a Waiver (Appendix A of Data Access directive) been filed?

7.1.2. If there are limitations to public data access, describe how data are protected from unauthorized access or disclosure:

7.2. Name of organization of facility providing data access:
National Centers for Environmental Information - Silver Spring, Maryland

7.2.1. If data hosting service is needed, please indicate:

7.2.2. URL of data access service, if known:
http://accession.nodc.noaa.gov/0162219
http://accession.nodc.noaa.gov/0162216

7.3. Data access methods or services offered:
Data can be accessed online via the NOAA National Centers for Environmental Information (NCEI) Ocean Archive.

7.4. Approximate delay between data collection and dissemination:
Unknown

7.4.1. If delay is longer than latency of automated processing, indicate under what authority data access is delayed:

8. Data Preservation and Protection
The NOAA Procedure for Scientific Records Appraisal and Archive Approval describes how to identify, appraise and decide what scientific records are to be preserved in a NOAA archive.

8.1. Actual or planned long-term data archive location:
(Specify NCEI-MD, NCEI-CO, NCEI-NC, NCEI-MS, World Data Center (WDC) facility, Other, To Be Determined, Unable to Archive, or No Archiving Intended)
NCEI-MD

8.1.1. If World Data Center or Other, specify:

8.1.2. If To Be Determined, Unable to Archive or No Archiving Intended, explain:

8.2. Data storage facility prior to being sent to an archive facility (if any):
Pacific Islands Fisheries Science Center - Honolulu, HI

8.3. Approximate delay between data collection and submission to an archive facility:
Unknown

8.4. How will the data be protected from accidental or malicious modification or deletion prior to receipt by the archive?
Discuss data back-up, disaster recovery/contingency planning, and off-site data storage relevant to the data collection
The data is captured in several locations: files stored on the cruise server during the

mission and the PIFSC network, and data are imported into the PIFSC Oracle database. The cruise server is regularly backed up by the cruise data manager while at sea, and the PIFSC network and Oracle database are maintained and regularly backed up by PIFSC ITS.

9. Additional Line Office or Staff Office Questions

Line and Staff Offices may extend this template by inserting additional questions in this section.